# CIRCULATING KNOWLEDGE OR SUPERSTITION?

Koen Vermeir

# CIRCULATING KNOWLEDGE OR SUPERSTITION? THE DUTCH DEBATE ON DIVINATION

KOEN VERMEIR[1]

During the last days of May 1696, the famous Dutch microscopist Antoni van Leeuwenhoek (1632-1723) was busy peering through his microscope at a piece of hazel rod. After careful scrutiny and consideration, he concluded that hazel "has a particularly large amount of very little horizontal vessels."[2] Van Leeuwenhoek had been drawn to a closer study of hazel and other kinds of wood, because of a particular controversy in his environment. Indeed, some of his friends were engaged in a debate on divination, and they had called for his help to resolve their disagreement.

Leeuwenhoek's intervention was part of an international controversy about the divining rod. The Dutch reception of this controversy gives us a beautiful picture of the ways in which natural philosophy was practiced and disseminated in the Low Countries at the turn of the seventeenth century. It offers us an idea of the scientific demonstrations going on in Dutch bourgeois domestic settings, the personal contacts by which scientific claims were transferred, as well as the ways in which controversies were initiated and perpetuated. This sometimes intense and venomous controversy between advocates and opponents of the divining rod developed in journal publications, books and pamphlets, enrolling the local doctors, literati and savants, but also drawing in intellectuals of international stature.

In discussing this episode in the history of wonders, I will take the notion of 'circulation of knowledge' seriously. Asking whether 'knowledge' – both skills and theoretical knowledge – is something that can be circulated has led me to distinguish three crucial levels in the circulation of knowledge. The first level of circulation comprises the circulation of material objects. Meanings are not transmitted as abstract entities but are always already 'embodied' in material objects that can be circulated, such as books, sounds, drawings, specimens, instruments or human bodies.[3] The materials that are handed on, the problems encountered in the circulation process, the changes to which they are subject, all warrant careful study, because the material objects are co-constitutive of the meanings and knowledge claims that they embody. A second level of the circulation of knowledge is the reception

[1] CNRS (UMR 7219, SPHERE); Univ Paris Diderot, Sorbonne Paris Cité, F-75013 Paris, France.
[2] Leeuwenhoek, "Leeuwenhoek to Rabus, 1 June 1696," in *Boekzaal*, 522-525.
[3] I cannot elaborate here in detail how information and knowledge claims can be embodied in material objects. Even the case of texts, in which this kind of embodiment seems obvious, is not evident at all. On the contrary, issues of readership, interpretation and appropriation make the 'embodiment' of information in texts a very intricate issue (as is evident also from seventeenth-century discussions of Bible interpretation, literal and 'true' meaning). The theory of embodiment I adhere to here is Wittgensteinian in nature. 'Embodiment' refers to the practices in which the material objects are embedded, between which these objects travel, and from which these objects derive their (changing) meanings. When a certain knowledge claim, a piece of information or meaning is 'embodied' in an object, it means that this object plays a specific, meaning constituting role in a certain practice.

and appropriation of these objects by historical actors, the new practices in which they are introduced, and the changes in meanings and knowledge claims that result from this.

At the third level, we should ask how and why these (sometimes considerably changed) knowledge claims that are circulated are *accepted as knowledge* by the historical actors. In order to study this third level, we will have to come to understand the epistemic structures in which the historical actors are embedded, such as the justificatory role of testimony, experience and experiments, issues of (local) rationality, and the epistemic role of belief, faith and trust.[4] When trust breaks down, the circulation of knowledge freezes. Information and knowledge claims can keep flowing - people still know what is going on - but this is not accepted *as knowledge* anymore. This makes clear that networks of trust are essential to a smooth functioning of the knowledge economy. Trust is challenged and breaks down most clearly in exceptional epistemic circumstances, when people are confronted with special, wondrous, even 'incredible' events, such as divination. In studying the Dutch reception of the controversy about divination, I will take into account the three different levels of the circulation of knowledge. In this way, I aim at a fully embodied historiography that combines the intellectual and material aspects of the history of science.

## LYONS AND PARIS: THE ORIGIN OF A CONTROVERSY

In the summer of 1692, thieves had broken into a wine shop in Lyons, stolen the money and killed the owners. When the police did not make progress at all on this case, the neighbours told them that there was a diviner, Jacques Aymar, who could find criminals. Called for by the police, Aymar 'took his impression' with his divining rod at the site of the crime and led them out of town for what would become an almost incredible journey. Aymar followed the trail of the murderers even on rivers and he pointed out all the places where the criminals had been, and the things they had touched, with his divining rod. After a long trip through many provinces, he found one of the murderers, a hunchback, who confessed his crime. Aymar set out again to follow the trail of the others, but this led him to the sea where they had boarded a ship, and so crossed the limits of the jurisdiction.[5]

This remarkable feat sparked a huge controversy. The facts were recorded in legal documents and testified to by the magistrates and other honourable men. Experiments were performed to test Aymar's abilities. The magistrates of Lyons had already performed some simple tests; they buried the murder weapon and some other tools, for instance. They asked Aymar to find them and to distinguish the

[4] With local rationality, I want to make clear that I am not referring to sweeping philosophical judgements of rationality or to Lakatos' rational reconstructions of episodes in the history of science. To the contrary, I want to indicate the local structures of rationality in which the historical actors take part. In this sense, medieval magic, for instance, can be pre-eminently rational. For this particular instance, see Kieckhefer "Specific Rationality," 813-836. See also Vermeir, "The Rationality of Magic and Science," 349-372.

[5] I have related the essentials of the French episode in Vermeir, "The Physical Prophet," 1-24. See also Figuier, *Histoire du merveilleux*, 59-70, and Lynn, "Divining the Enlightenment," 34-54. The most prominent historical sources that include descriptions of the basic facts of the case are Vallemont, *La Physique Occulte* and Le Brun, *Histoire critique*. Because lack of space, I cannot give an extensive bibliography of this case here.

murder weapon from the others. After the execution of the murderer, several more experiments were carried out, and Aymar succeeded in many, even when the experimenters attempted to trick him. Provincial physicians and theologians, trying to understand Aymar's curious ability, came up with diverse explanations, based on astrology, Cartesian subtle particles, but also demonic action.

The discussion did not stay confined to the provincial level. Letters were written to savants, courtiers and the nobility in Paris, which allowed the Parisians to become virtual witnesses of this curious case.[6] These letters were circulated at court, where they caused much pleasure and divertissement. Some of these letters were later bundled and published. These pamphlets were in their turn followed by a number of books reporting and interpreting the case. Reading letters about these events, and even looking at other dowsers, who started to appear all over the country, was not the same as seeing Aymar in person. Therefore, Henri-Jules de Bourbon, Prince de Condé (1643-1709), one of the country's most prominent noblemen, decided to bring Aymar to Paris. The prince did not just do this for the stir this would create. He performed experiments with Aymar, sometimes in the salons of his peers, sometimes under the guidance of the Royal Prosecutor and of the *Académie Royale des Sciences*. Strikingly, they reported that Aymar failed at finding hidden gold or water, performing far below the strained expectations of the witnesses.[7]

This sparked a huge controversy. Discussions and disputes started in the 1693 and 1694 editions of the primary popular and intellectual journals, including the *Mercure Galant*, the *Journal des Sçavans*, and the *Mercure Historique et Politique*, as well as in many books and pamphlets. Several leading French intellectuals were involved. Different books appeared in Paris and in the rest of Europe. Pierre Lorrain de Vallemont, one of Aymar's most prominent defenders, explained the phenomenon in a natural way. Pierre Le Brun, his major opponent, gave a demonic explanation.[8] Le Brun found it particularly striking that the divining rod worked sometimes unquestionably, but at other times failed to get it right, and he recognised demonic whimsicality in this. Others detracted Aymar and denounced him as a fraud. The controversy had repercussions in Italy, England, Germany and the Netherlands. In this paper, I will detail the particularities of the circulation of this wondrous case within the Low Countries.

The circulation of information and knowledge claims was mediated by a number of prominent intellectuals. These authors did not function as passive mediators, however. They tried to form their own judgement on this case, based on the available information and their philosophical or religious

[6] For the notion of virtual witnessing, a crucial form of 'circulation of knowledge', see Shapin and Schaffer, *Leviathan.*

[7] See e.g. "Lettre de M*** a Monsieur..." and "Lettre De Mr. Robert Procureur du Roi au Châtelet de Paris" in the April 1693 issue of the *Mercure Galant*, 262-294. In contrast, in an earlier issue of the *Mercure Galant* (February 1693, 311-313), a (probably fraudulent or misinformed) account had appeared claiming that Aymar had performed many successful experiments with the prince de Condé in Paris. Vallemont claimed that he had done a different set of experiments in Paris at which Aymar was successful. These contrary accounts make one suspect that these reports might be somewhat skewed or exaggerated, and this makes it difficult to assess precisely how (un)successful Aymar was in Paris.

[8] See Vallemont, *La Physique Occulte* and Le Brun, *Histoire critique.*

position. Some of them changed their mind during the writing of their account of the case; the commitment of others to the case became transformed when family members were personally drawn in. I will pay special attention to these savants' literary and personal networks, through which the information was disseminated, but I will also look at the reasons and arguments they used to make a judgement on this case. Their aim in writing was to convince others. They tried to appropriate and enlist this controversy for their own aims, be it the fight against superstition, the education of the public, finding out the secrets of nature, or protecting the honour of the family.

[fig. 1]

## BALTHASAR BEKKER: CRUSHING DEMONS BUT DEFENDING DIVINATION

News of the spectacular feats of Aymar reached the northern Netherlands by a variety of channels, amongst which, most prominently, published books, journal issues and personal contacts between members of the Republic of Letters. Communication was not as self-evident as is often supposed. During the wars between the Netherlands, France and England, the Low Countries were practically isolated, and letters as well as books generally did not cross the border easily. In the 1694 issue of a local journal, the journal-editor Pieter Rabus wrote that there were not many foreign books around to review because of the state of war.[9] Because many French books were printed at presses in the Netherlands, however, the Low Countries were still a relatively good place for international exchanges, especially with France.

Of the French books discussing the Aymar case, it was especially Vallemont's *Physique Occulte* that was widely read abroad. This was due partly to its sensational content and its fashionable Cartesian approach to divination, and partly to the fact that it was printed in many editions and translations, and was published beyond Paris, in Amsterdam, The Hague, Nuremberg and Bamberg. Balthasar Bekker (1634-1698), a reformed theologian who had just moved to Amsterdam, was one of the first to pick up the story from the Amsterdam edition of the *Physique Occulte*. This edition, which appeared shortly before the second part of Bekker's own *Betoverde Weereld* went into print, gave Bekker just enough time to include the new spectacular events it reported into his analysis.[10]

In 1693, Balthasar Bekker stood at the centre of his own controversy, which had been kindled by the publication of books 1 and 2 of his *Betoverde Weereld* in 1691.[11] Another Dutchman, Anthonie van Dale, had caused great consternation a few years before by arguing that the pagan oracles had not been

[9] *De Boekzaal of Europe*, July-August 1694, 119.
[10] In his analysis of the case, Bekker referred especially to the factual accounts written by the provincial abbot De Lagarde and the Lyons physician Garnier, both reprinted in Vallemont's *Physique Occulte*.
[11] The publication story of Bekker's controversial book is complicated but relevant to the dissemination of the ensuing controversy. Bekker relates his account of these events in the introduction of the 1693 edition of the *Betoverde Weereld*.

demonically inspired prophecies, but frauds set up by priests to enslave the people.[12] In his *Betoverde Weereld*, Bekker claimed in a more general way that the devil had no power over mankind whatsoever. When many readers perceived his argument as a veiled way of saying that the devil did not exist, all hell broke loose. Jonathan Israel writes that the Bekker furore was "the biggest intellectual controversy of Early Enlightement Europe, producing a stupendous 300 publications for and against."[13] The Aymar case was widely publicised, albeit in a controversial way, because Bekker appropriated the story in the second part of his best-seller, and made it bolster his own argument.[14]

Bekker was particularly interested in this case of divination because, just like Le Brun, the prominent philosopher Nicolas Malebranche had ventured a demonic explanation of the event.[15] Bekker, himself known as an avid Cartesian, thankfully followed the naturalist explanation of the French provincial physicians and Vallemont, in order to counter all suspicion that the devil might be at work here.[16] Bekker had also read about the negative results of the Prince de Condé's experiments in one of the French journals that enjoyed an international readership.[17] Orchestrated by the Prince de Condé, who felt the public had to be informed about this deceit, letters and declarations had been published in the major French journals, detailing how Aymar had failed. In another article, Vallemont's naturalistic explanations of Aymar's failures in Paris are derided. The journalist notes that this kind of philosopher never admits his mistake, and he dismisses Vallemont as an enthusiast.[18]

Bekker carefully weighs all these testimonials. On the one hand, Vallemont and others wrote in support of Aymar, and what they asserted was attested by credible persons. On the other hand, de Condé and his followers claimed that Aymar was a fraud. If we cannot even confirm the facts, Bekker remarks warily, it does not make much sense to look for their causes. So many great thinkers have already been embarrassed in this way. What cut the knot to the advantage of Aymar, Bekker pointed out, was the fact that some credible men had themselves the gift of dowsing.

Bekker mentions Monseigneur Galet, Bishop of Saint-Jean-de-Morienne and a great astronomer, Pierre Tonnelier, an apprentice apothecary in Paris, Grimaut, an officer of the douane in Lyons, and Besson, a young prosecutor in Lyons, all who had the gift of dowsing. Bekker probably read about the

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[12] Van Dale, *De oraculis veterum ethnicorum.*
[13] Israel, *Radical Enlightenment*, 382.
[14] The Aymar case is analysed in book 4, chapter 23 of Bekker's *Betoverde Weereld*.
[15] Malebranche, "Réponse de l'Auteur de la Recherche de la Vérité" and "Réponse du même Auteur."
[16] For Cartesian explanations, see esp. Vallemont, *La Physique Occulte*; Garnier, *Dissertation Physique;* Garnier, *Histoire de la baguette*. See also the work by Panthot, the dean of the medical faculty of Lyons and of one of the witnesses of the Aymar experiments in Lyons: Panthot, *Lettre de M. Panthot*. There is also a pamphlet, [Panthot] *La Baguette de Lyon.* This is a pirated version of Panthot's letter, with a number of variations to the original. Panthot's letter was circulated widely, and was reprinted many times. It was published in the *Mercure Galant* of October 1692, 13 ff., with new additions on p. 213 ff., and again with supplements in the different editions of his *Traité de la Baguette*.
[17] In the May issue of the *Mercure Historique et Politique*, Bekker had read letters by Abbé Nicaise, by Buissière, the apothecary of de Condé, and by Robert, the Royal Prosecutor in Paris, that Aymar was a fraud, in the May 1693 issue of the *Mercure Historique et Politique* (section "On publie qu'Aimar est un fourbe. Lettres à ce sujet," p. 558).
[18] "Nouvelles Reflexions sur Aimar," *Mercure Historique et Politique*, May 1693, 565.

first two in the April 1693 issue of the *Mercure Historique et Politique* and of the latter two in a letter written to the abbot Jean-Paul Bignon, a famous intellectual in Paris, and reprinted in Vallemont's book.[19] On Tonnelier, it was told that experiments had been performed in the garden of the *Académie des Sciences* in Paris and in the houses of officials and noblemen. At first, these experiments did sometimes fail, but in the end they turned out to be convincing and successful, even when the witnesses present tried to trick Tonnelier into making mistakes.[20]

Furthermore, Bekker noted, there are all these people walking in the mountains with their divining rods: would they all be frauds? And why would they do this? Also in his own town, Bekker remarked, it was possible to find credible diviners. Bekker himself had a good friend, a man of much experience, judgement and reason, who had the gift of dowsing. The friend that Bekker mentioned can be identified as the publisher and bibliographer Cornelis van Beughem, who will appear again later in this paper. By accident, in his youth, this man had discovered a treasure with his rod. Afraid of being branded a magician or a witch, he had left the treasure where it was. Someone else later discovered the treasure, and it was not difficult to guess who this was, as one of the neighbours was suddenly on the spend.

From his theological position, denying all demonic action in the world, it is clear why Bekker was attracted to Vallemont's naturalist Cartesian explanation of dowsing. Bekker proposed, following Vallemont, that murderers and other criminals exhale very specific subtle particles. These particles are different from those exhaled before the crime, because the criminal act causes fear and passions in the criminal, which affects his blood, and changes his body economy and exhalations. The corpuscles can enter the pores of the skin of the diviner, affect his blood and cause fermentations, if the diviner's body is attuned to these specific particles. The fermentations in the body of the diviner affect his nerves and this causes convulsions and heart spasms. These particles also fill the divining rod, but their free outflow is hindered, and this makes the rod contract and turn (this is similar to contemporary models of muscle contraction caused by animal spirits).

Bekker presented this as a possible natural explanation of the phenomenon of divining. He did not need to come up with the final word on the issue, but he found this explanatory model convincing enough so that he could reject the possibility of demonic involvement. Bekker did not naïvely accept Vallemont's account, however. Denouncing the events as frauds instead of demonic action could also have been an attractive possibility. Indeed, he also took into account the accusations of de Condé and others of the Prince's entourage. But the fact that other credible men, who did not have anything to do with Aymar or the Aymar case also claimed to have the gift of dowsing, and especially his own personal acquaintance with a dowser, overtrumped the Prince de Condé's claims of unmasking Aymar. Bekker concludes that the circumstances have been too well inquired into, and that fraud was

[19] *Mercure Historique et Politique*, April 1693, 434 ff. and Vallemont, *La Physique Occulte*, 36-41.
[20] On Tonnelier, see Comiers, *La Baguette Justifiée*, 59. This text was also printed in the *Mercure Galant*, March 1693, 104-210. For more on Tonnelier, see also Comiers, "Observations touchant les tresors cachez," 66-119, esp. p. 91.

very implausible. There must be another, yet undiscovered, reason why the divining rod did not work in Paris.

## PIERE BAYLE: THE SCEPTICAL PHILOSOPHER

Pierre Bayle (1647-1706), a French Huguenot exiled in the Netherlands and one of the most famous thinkers at the turn of the seventeenth century, heard about the Aymar case in different stages during the enfolding of the plot.[21] He reported it extensively in the first pages of his widely read *Dictionaire* [sic] *historique et critique* (1697). The *Dictionaire* was an encyclopaedic dictionary meant to educate the public and to eradicate the multitude of errors that had crept into the body of knowledge. At the time, it was widely believed that knowledge had been corrupted because of defectives modes of circulating knowledge. Incorrect knowledge claims were uncritically copied and widely disseminated and new errors crept in during the process of circulation. Instead of carefully checking the available sources, using sound judgement as well as textual criticism, the same mistakes were perpetuated time over again. If one calculated in also the possibility of conscious frauds, the problems became even worse.[22] Even the major dictionaries and encyclopaedias perpetuated more errors than truths. At first, Bayle conceived of his *Dictionaire* as a point for point rebuttal of the famous (but not critical) dictionary by Louis Moreri. For Bayle, Moreri was someone who poisoned the public, and Bayle wanted to counter him by starting a collection of errors.

"Around the month of December 1690," Bayle wrote, "I made the plan to compose a critical dictionary that would contain a collection of the mistakes that were made, by those who made dictionaries as well as by other writers, and which would enlist under each name of a man or a city all the errors that were disseminated about this man or city."[23] Errors were powerful and obstinate. They spread like weeds and their circulation seemed to go much more smoothly than the circulation of knowledge. "There is by no means a lie, as absurd as it could be, that does not pass from book to book and century to century. Tell lies audaciously, print all kind of extravagancies, one could say to the most miserable lardhead (*lardonniste*) of Europe, you will find enough people who will copy your stories, and, if someone rebuts you at a certain time, there will arise conjunctures in which someone else will have an interest to have you resuscitated."[24] Errors were considered the major obstacle for making progress in the generation and circulation of knowledge, and Bayle made battling these perpetuated errors and superstitions one of the major goals of his life.

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[21] For a classic appraisal of Bayle in his times, see Hazard, *La crise de la conscience européenne.*
[22] On early modern fraud, see Grafton, *Forgers and Critics.* See also Nummedal, *Alchemy and Authority.*
[23] Pierre Bayle to his nephew Naudé, 22 May 1692, cited in Hazard, *La crise*, 104-5. See also Bayle, "Projet d'un Dictionaire Critique à Mr. De Rondel," the introduction to his *Projet et Fragmens d'un Dictionaire Critique*.
[24] Bayle, *Dictionaire*, art. *Capet*, letter Y, cited in Hazard, *La crise*, 106.

In an article ostensibly on the myth of the arrow of Abaris (with this arrow, Abaris was said to be able to fly and do other wonders), the discussion of the various stages of the Aymar case took up most of the space in interminable footnotes.[25] Bayle compared the divining rod with other conjuror's rods, and mocked that this wand was almost as miraculous as the mythical arrow of Abaris. He had heard that one could find anything with the divining rod, not only treasures, metals and the boundaries of lands, but also thieves and adulterers. Somewhat ironical and sceptical, Bayle did not deny the power of the rod outright, and he even suggests that it might serve as a vindication or as the historical root of the story about the arrow of Abaris. He notes that the rod was so successful that Malebranche and others could not dismiss the feats and were obliged to ascribe its action to the devil.

Bayle's article on Abaris is a nice instance of a text in which developing authorship is still visible, where the different stages of the text are preserved in little hints that we can read as a palimpsest. The materiality of the text, the lay-out, the division of the paragraphs and Bayle's special use of different kinds of footnotes, can tell us a lot about how this text was constructed, and how it was corrected and amended over time. This also has a bearing on Bayle's assessment of the Aymar case. We can read his shifting assessment of the divining rod case from this text, depending on the stage of the controversy and the new information he received. Starting to write his *Dictionary* in the winter of 1693, he noted in a neutral way in a note in the beginning of the article that the last summer, a famous 'wand-conjurer' had appeared in Lyons and was brought to Paris for experiments.[26]

Later, he added to the body of the article a few sentences. First, he adds a more sceptical phrase that 'they attribute' such a virtue to Aymar's wand, and he explains in footnote (G) that he had recently heard – apparently while writing up the article during the spring of 1693[27] – that the supporters of Aymar had been frustrated in their expectations. He would not recant, however, that, if it were true, such an invention would be very useful, as it would keep everyone honest and virtuous. He is more sceptical as before, but he still contemplates the possible truth of the case and is far from affirming that Aymar is a fraud. He finds the case interesting and adds that Aymar's story would deserve to be explored in a separate article. In a letter to Vincent Minutoli, written in Rotterdam on 14 September 1693, he writes positively about Vallemont's defence of Aymar. He likes the fact that Vallemont explains everything mechanically, by means of flows of corpuscles, without taking recourse to demons or spirits, as Malebranche had done. He does not chide Vallemont for credulously accepting such a strange phenomenon and building theories about it without first inquiring into the fact of the matter.[28]

[25] Bayle, *Dictionaire*, 1697 edition, art. *Abaris*, 1-5.
[26] *Ibid*., 2, around note (b) and (c). Note (c) explains that 'last summer' refers to 1692.
[27] In Bayle, *Dictionaire*, 1702 edition, there is a note † added on page 4, which mentions that this part was written in 1693.
[28] Bayle, Letter to Minutoli of 14 September 1693: "On a réimprimé à Amsterdam le leivre de Mr. De Vallemont, Prètre & Docteur en Théologie, sur la Baguette Divinatoire. Il explique tout ce qui fait Jacques Aymar, par la Mécanique, & les Ecoulemens de Corpuscules, sans recourir à la direction d'aucun Esprit, comme le P. Malebranche. Le Livre est assez curieux." (Lettre 152, in Bayle, *Oeuvres Diverses*, IV, 695-696).

By the next stage, while preparing this first article for print, he had clearly come to reject the truth of Aymar's capacities, injecting some rationalist rhetoric against credulity and impostures. He also added a last sentence to the article, noting that the rod had faced its doom at the Prince de Condé's palace. In a new footnote (H), he argued that the Prince de Condé's extraordinary abilities had exposed all impostures and their credulous followers.[29] To plead the uncertainty of the case was in vain, since the Prince had informed the whole world about it. Bayle points out that there is something to say for the idea that the impostures had timed their cheat badly, as this was a Philosophical Age, and so they were more easily exposed than before. At the same time and at a personal level, Bayle remained pessimistic, suggesting that his age might be just as gullible as any other. In writing this, he might in fact have been referring to his own earlier, frivolous and ironic attitude and his failure to take a stronger stance. Making up for this earlier weakness, he now accuses Vallemont of obstinacy in defending the genuineness of Aymar's gifts, even in the face of the strong evidence delivered by the Prince de Condé, and in finding reasons for Aymar's glitches in the Parisian experiments. People like Vallemont "do not respect the deceivers less for it, [and they] do not cry less against the faith of those who have not been deceived."[30]

In the 1702 edition, Bayle added yet another layer to the story.[31] He now included extra text to an already extensive footnote, making it run to several pages. He remarked that it had been quiet around Aymar for three or four years, but that new information had reached him recently. In the April issue 1697 of the *Mercure Historique et Politique*, it was reported that Aymar had found the parents of a foundling with his rod. This positive story could not count on much support from Bayle, given his previous strong dismissal of Aymar's capacities. He notes that we cannot be certain of the truth of this story published in the *Mercure*, and he casts doubt on the honesty of the journalists. The story could just be invented, there are always people who love fiction, and the authors know that few will take the trouble to check the veracity of the story. Here we can see Bayle's strong criticism of fallacious modes of the circulation of knowledge claims and of the dissemination of errors, sometimes by conscious fraud, come to the fore. Even if the story were true as narrated, Bayle argued, one cannot silence the incredulous with such an account. There are other explanations possible that do not have to accept that divination with a rod is possible. Maybe Aymar knew everything about the secret relationship of the foundling's parents by informants, and they might have had their reasons for bringing it to light in this way, without exposing themselves.

In the 1715 edition, Bayle adds conclusive proof and further reflections to the story. He had inquired more about Aymar with his friends in the Republic of Letters, and he had received a letter, dated 25 July 1698, by Paul Buissière, apothecary to the Prince de Condé. This letter provided Bayle with the 'most positive proof' that Aymar was a cheat: Aymar had confessed this himself to Buissière and de

[29] This footnote starts with exclaiming that this case had hardly lasted the time needed to compose and print an article for his dictionary.
[30] Bayle, *Dictionaire*, 1697 edition, art. *Abaris*, 5, note H, just before (a).
[31] Bayle, *Dictionnaire*, 1702 edition, art. *Abaris*, 4, note H.

Condé. After this confession, Buissière wrote, Aymar received 30 golden coins from the Prince, so that he would return to his village. Buissière also mentions a fourteen-year old boy, who had been trained and managed by a gentleman to do similar tricks with a divining rod. After shutting him up for several days without contact with this gentleman, some money, promises and threats made the little boy confess that it was all a trick. Bayle adds to this story a rather unenlightened remark, suggesting that once Aymar had tracked the murderer, the magistrates of Lyons should have threatened to burn him alive as a wicked magician, and the executioner should have been present with all his instruments of the rack to substantiate the threat. According to Bayle, this would quickly have procured a confession of how Aymar had secretly learned all about the assassination in Lyons, how he had been able to follow the criminals and to point out the murderer. This remark concords too well with the actual trials of alleged witches and magicians, who in those years were still tortured into confessions and executed, to be palatable for the modern reader.[32]

Bayle is much less optimistic than some of his peers, such as Van Dale, Bekker and Rabus, about the fight against credulity and superstition. People do not need much coaxing by others to believe deception and imposture, he writes, their own credulity is sufficient in itself. Furthermore, the credulity of the people seems to be incurable. Even if a cheat is exposed, the people forget such a thing very quickly, and in a few years, we will see the same comedy all over again. For Bayle, the story of Aymar's new successes in the province was sufficient proof of this.

In the case of Bayle, we see that a circulation in distinct stages, sometimes exacerbated by problems in the material circulation of the information (e.g. because of war and problems with the postal system), affects the material structure of a text under construction, as well as the author's judgements on the knowledge claims expressed in it.[33] New information about the development of the Aymar case led Bayle to revise his position radically, from moderately positive to distinctly sceptical and critical, inveighing against the credulity of Aymar's supporters. We have seen the tenor of the text changing from the report of a curious event into a critical assessment of defective modes in the circulation of knowledge. In the final version of the text, Bayle wants to show us how laziness and the failure to check the facts, credulity with respect to strange phenomena, prejudices, dogmatism, the stubborn adherence to one's opinions even in the fact of refutation, as well as conscious fraud by both the reporters of the story and the actors involved, all caused the spreading of errors instead of knowledge.

## PIETER RABUS: TEACHING THE PUBLIC HOW TO DIVINE

A friend of Pierre Bayle, Pieter Rabus, would get involved into the dowsing controversy in an unexpected way, causing much confusion for Bayle and other intellectuals living in the Netherlands.

[32] Bayle, *Dictionnaire*, 1715 edition, art. *Abaris*, 5, note H, above note (f).
[33] The time delays between the occurrence of events and Bayle's writings about them suggest difficulties in distributing letters, journal issues and books. In this case, Bayle inquires in letters about issues that had been reported in print months earlier in France.

Pieter Rabus (1660-1702) was a public notary and a teacher at the Erasmian high school of Rotterdam. He was a figure well known for his educational commitment and his fight against ignorance, credulity, short-sightedness and dogmatism. In his youth, he had been a friend of the poet David van Hoogstraten and belonged to a circle of poets, booksellers and literati. He wrote and translated a number of books, but his most lasting literary feat was the foundation of an intellectual journal, the *Boekzaal van Europe.*[34]

An acquaintance and ardent admirer of his fellow citizen of Rotterdam, Pierre Bayle, Rabus styled his journal after Bayle's *Nouvelles* and other intellectual journals, such as the *Journal de Sçavans* initially, but later also journals published in the Netherlands such as Jean le Clerc's *Bibliothèque* and Henri Basnage de Beauval's *Histoire des Ouvrages*. Distinctive about the *Boekzaal* is that its articles were written in the vernacular, opening admission to the Republic of Letters to a much wider circle of less educated people. *The Boekzaal* bears witness to Rabus' pedagogical commitment. There was also a commercial component to this enterprise, of course, as Rabus was thus able to reach a new, eager and growing public in Dutch bourgeois society. This explains why the *Boekzaal* was also interesting for its publisher, Pieter Van der Slaart. In his journal, Rabus reviewed what happened in the Republic of Letters with "objectivity and justice."[35] Most prominently, he summarised the contents of recently published books, with a special focus on the Netherlands. Van der Slaart advertised his bookshop in the *Boekzaal,* and pointed out that he printed or sold most of the books that were reviewed by Rabus.[36]

Already the first issue of the *Boekzaal* provoked a strong debate. Rabus had there offered an extensive review of Bekker's *Betoverde Weereld*, and this drew him into the Bekker furore. The Church Council, finding that Rabus had failed in his self-proclaimed aim of impartiality, accused him of Bekkerianism and even Spinozism. Rabus had frequented circles of progressive thinkers, but he took care not to associate himself with overtly radical currents. He did not extend his rationalism to matters of religion, for instance, and although he knew numerous members of different Dutch sects and non-church groups, he took a moderate stance or hid his less orthodox views from the public eye. Where popular credulity and superstitions were concerned, however, he sided with Bekker and Van Dale, with whom he became good friends. Furthermore, Rabus was somewhat quick-tempered and contentious, taking part in a number of quarrels and pamphlet wars. Even in the tolerant Dutch Republic, Rabus was thus a controversial figure. After a few years, the city council had to impose censorship on the *Boekzaal,* although it was only minimally enforced.

Rabus probably first read about the Aymar case in Bekker's *Betoverde Weereld*. In his review of books 3 and 4, Rabus writes that Bekker conscientiously deliberates the contents of the stories about Aymar, the conflicting judgements of the learned, and then tries to find the most plausible explanation

[34] On Rabus and the *Boekzaal*, see esp. de Vet, *Pieter Rabus;* en Bots, *Pieter Rabus en de Boekzaal van Europe*.
[35] See the 'manifest' at the beginning of the first issue of the *Boekzaal*, 1692.
[36] Rabus had started his own journal with book reviews with the Rotterdam publisher Barend Bos in 1701, after a row with Van der Slaart. As a result, the publisher Van der Slaart went bankrupt: in 1702 he had to sell his printing press and inventory.

of the case.[37] Rabus' interest was aroused and a few months later, he extensively reviewed the 1693 Amsterdam edition of Vallemont's *Physique occulte*.[38] "There will be hardly any diligent investigator of natural philosophy, or any curious reader of news that comes to us from France, I believe, here or in the neighbouring countries, who can be ignorant of the notorious effects, that man has found, that a certain peasant Jakob Aymar is able to perform."[39] Rabus attests to the widespread commotion aroused by this case. There was so much talk, writing and circulation of news going on, and new information kept flowing into the country, Rabus said, all of which contributed to confirm that "this history has, by flying rumours, become so well known, and by fresh news, become so indubitable, that it cannot be suspect of falseness by anyone."[40] The sheer flood of information seemed to invest it with a ring of truth.

Rabus did not only rely on stories that came over from France. He reported that a famous Dutch writer had a good friend outside Holland who possessed the capacity of finding gold and silver by means of a divining rod. Rabus himself knew this man, who had told him all about his feats of divination when he had visited Rabus in Rotterdam. Sometimes, the rod turned so strongly in that man's hands that it almost ripped off his skin. From later writings, we can deduce that Bekker is the famous Dutch writer mentioned by Rabus, and that Cornelis van Beughem, a publisher, famous bibliographer, mathematician, and city official of the town of Emmerich, is the dowser mentioned by both Bekker and Rabus.[41] A phenomenon, inquired into and found true by so many, could not be a deceit and should be attributed to the pure working of nature, Rabus proclaimed. If the power of the loadstone was not generally known, it would strike us as at least as strange.

For Rabus, the case of the divining rod fitted well into his fight against credulity and superstition as well as into the context of the Bekker controversy. Not that he was sceptical of this new phenomenon; quite to the contrary. But he could chide those who imagined that incantations or rituals were involved in the practice of divination, which illustrated for Rabus that these people had the foolish idea that the devil's tricks played a role here. On the other hand, idolaters who attributed to the rod higher powers than it actually possessed were equally mistaken. Rabus stressed that there were no spiritual powers involved, and that it was a purely natural and material phenomenon. Therefore, it was important to know that a divining rod could be made of a branch of any kind of tree, cut at any time of the day and

[37] *Boekzaal*, September and October 1693, 335-357.
[38] *Boekzaal*, March and April 1694, 357 ff.
[39] "Naawelijks, geloove ik, is 'er in deze, of nabuerige landen eenig naarstig onderzoeker der Natuurkunde, of nieusgierig lezer van allerley maren, ons uit Vrankrijk overkomende, die onkundig kan zijn van de berugte uitwerkingen, welke men bevonden heeft, dat zeker boer Jakob Aymar magtig is te bewijzen, niet alleen in nasporen van waterbronnen, bergstoffen, en verborgene schatten, maar ook van vlugtende dieven, moorders, enz. alles door behulp van een wichelstukje, dat hy in zijne handen houd, en waar mede hy achter 't geheim raakt" (*ibid*., 357-358).
[40] *Ibid*.
[41] For Bekker, see *Boekzaal*, May-June 1697, 389-437; for Van Beughem, see idem, and also *Boekzaal* May-June 1696, 495-500, and the pamphlet *Nodige Verantwoordinge*, e.g. 22-23. See also Palm, "Antoni van Leeuwenhoeks reactie." On Van Beughem as a founding father of modern bibliography, see the famous bibliographer of bibliographies Theodore Besterman, *The Beginnings of Systematic Bibliography*. For Bayle's appreciation of Van Beughem, see Bayle, *Oeuvres Diverses*, IV, 681.

the year, without any muttering of special words or performance of special gestures. In order to make sure the phenomenon was natural, attention to the circumstances of the material production of the rod was crucial.

Sure enough, it remained a curious fact that the divining rod, contrary to the loadstone, did not work in the hands of everyone. For many, this was a reason to suspect demonic involvement after all. Rabus appreciates especially the profundity of Vallemont's naturalist explanation of this curious problem.[42] Vallemont argues that the practice of divining depended much more on the body of the diviner than on the properties of the rod. Not everyone is a dowser, and not every dowser can find the same kind of objects. This is because the temperament of the body has an important role to play. Vallemont gives this a Cartesian twist by relating this to the texture of the fibres of the body, which are different in each person, and to the circulation of subtle effluvia. "I explain the sympathy of the divining-rod with metals and other things to which it inclines by the flow of subtle matter, which transpires from all bodies, and disperses in the air, and the Jesuit [Caspar] Schott says that this is the right way to explain effects, which were previously ascribed to occult qualities."[43] The material circulation of this subtle matter, transpiring from all kinds of bodies, connected everything in an intimate way. By reference to these circulations, a natural philosopher could explain the strangest phenomena.

The pores of the body have to correspond exactly to the volume and figures of the corpuscles of the vapours in order to let them through.[44] Therefore, some people have the right temperament only for finding gold, others for silver and yet others for water. It was just as with dogs: only some breeds possess a good nose for hunting, and there are dogs which hunt only foxes or hares. The bitter and acid salts in the exhalations of metals, water and even criminals can only be taken in by the corresponding pores. They become mixed with the blood and cause violent circulations, and these in their turn cause the faintness and heart spasms the dowsers experienced. The capacity of dowsing is thus dependent on the present state of the body (conditioned by food or the saturation of the blood) and its general complexion, such as its temperature and way of perspiring. If the air about oneself is saturated by vapour, one will be unable to receive other corpuscles. It follows from this analysis that the divining rod was not really necessary in dowsing, as was attested to by many dowsers. It merely enhanced the phenomenon, and subtle muscle spasms were also made visible more easily by the twists and turns of a hazel stick. Therefore, Vallemont asserted that the divining rod enhanced our tactile sense, just as microscopes and telescopes enhanced our sight.[45]

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[42] *Boekzaal*, March and April 1694, 364. Vallemont, *La Physique Occulte*.
[43] Vallemont, *La Physique Occulte*, 142. See also Hutchison, "What Happened to Occult Qualities," 233–253.
[44] Vallemont, *La Physique Occulte*, 423.
[45] Ibid., 447: "Mais quand l'impression est foible, & qu'on se sent peu ému; on a recours à la Baguette, qui est dirigée par ces corpuscules invisibles, & qui fait sentir par son mouvement, ce que l'on ne découvriroit point par la seule voye de la sensation du toucher. C'est ainsi qu'un Microscope fait voir, en aidant la Nature ce que jamais l'oeil humain n'avoit vû. C'est ainsi qu'une lunette d'aproche découvre dans le ciel des Etoiles qu'on n'aurait jamais vûës sans le secours de ce merveilleux instrument."

[fig. 2]

## LEEUWENHOEK: THE DIVINING ROD AND THE MICROSCOPE

Two years later, on 16 May 1696, Rabus was still wondering about the properties of the divining rod. Puzzled by new experiences, he wrote to his friend Antoni van Leeuwenhoek (1632-1723), the famous microscopist, asking him whether he could take a look at the divining rod with his microscope: "But since it is difficult to disclose the reason of this secret of nature exactly, I would request you to cast your far-sighted eyes over it and, if you have thought of something in connection with the gold or the hazelnut tree, to inform me of it."[46] Rabus explained that some attempted to explain the phenomenon by reference to small corpuscles. Others, by contrast, stressed the temperament or natural aptitude of the person who uses the rod. He had not much hope, however, that a study of the rod itself would yield great results: "This much is certain that there cannot be much hidden power in the bit of wood, for if this were the explanation, any person would be able to make such a demonstration."[47]

Before turning to his request for assistance at the end of his letter, Rabus tried to convince Leeuwenhoek of the truth of divining by relating new and stunning information. From his words, it becomes obvious that Rabus had recently become personally involved in the divining case. On Saturday, 12 May, Cornelis van Beughem had visited Rabus for a second time. They were colleagues in the publishing business as well as in bibliographical work, and they were on friendly terms. Still curious about the divining rod, Rabus broached this subject once more with the renowned dowser. As he explained to Leeuwenhoek:

> Although I am a mortal enemy of superstition and very rarely accept the truth of something on the basis of hearsay or rumours, I am never suspicious when an honest man confirms a curious matter, which he considers true on the grounds of his experience. However, sight is better than hearsay, and so far I had no experience of my own to satisfy myself by accurate ascertainment of this strange process.[48]

In order to accept rumours as true pieces of knowledge, the word of an honest and experienced man was crucial for Rabus.[49] Still better, however, were experimental proofs. In response to Rabus'

[46] Rabus letter was printed in the *Boekzaal*, May-June 1696, 495-500. The letter can also be found in Leeuwenhoek's published correpondence, see Palm, *Alle de Brieven*, XI, 260-267; quote at 264-265. On Leeuwenhoek and Rabus, see also Palm, "Antoni van Leeuwenhoeks reactie," and van der Saag, "Pieter Rabus en Antoni van Leeuwenhoek," 343-382.
[47] Palm, *Alle de Brieven*, XI, 260-267.
[48] *Ibid*, 261
[49] In order to convince Leeuwenhoek of the trustworthiness of Van Beughem, Rabus pointed out that Leeuwenhoek and Van Beughem were acquaintances: together with another gentleman, Van Beughem had visited Leeuwenhoek at home some time ago to admire his collection and his discoveries in natural philosophy.

request, Van Beughem repeated his previous statements, corroborated them by relating many credible circumstances, and also offered to give a demonstration.

The next day, they went to a garden outside the city to get some new forked hazel twigs, and when they returned, other curious guests stood waiting for the demonstration to begin. Some of them were considerably more incredulous than Rabus, one of them declaring that he should be pleased if cured, like doubting Thomas, of his doubts, but that in the meanwhile he hoped one would not blame him if he suspected fraud. Van Beughem's son, Cornelius, alone among nine children to possess the gift of dowsing, came to his father's defence and proposed to do the demonstrations himself. His father explained that his son was even more gifted than himself. With his father's blessing, Cornelius gave more than 25 demonstrations before the gathering, before and after dinner. Everyone was stunned and convinced, including the very incredulous friend who had expressed strong scepticism beforehand. According to Rabus' description, the piece of wood turned so strongly in the hands of Cornelius that it almost lost its bark.

After these demonstrations, Van Beughem suggested that everyone present could take a try. Not one in a hundred had the gift of dowsing, he explained, but one could never know beforehand. One for one, they tried, but the twig remained rigid. When Rabus' wife took her turn, however, the twig shook and trembled almost as strongly as in the hands of Cornelius.[50] After discovering her natural aptitude for divining, Rabus' wife, Elisabeth Ostens, did at least as many trials as Cornelius had done. Rabus stood aghast. He took the twigs with him that night and since then, he explained to Leeuwenhoek, his wife had performed many demonstrations for him on a daily basis, giving indubitable proof of the workings of the divining rod. Intrigued, Leeuwenhoek travelled from Delft to Rotterdam and Elisabeth treated him to a demonstration of divining at Rabus' house. Leeuwenhoek was thoroughly surprised by this curious phenomenon, but was afraid that his friends would not believe him were he to tell them about it. For this reason, Rabus organised another demonstration at Leeuwenhoek's home in Delft, with five distinguished gentlemen present.[51] Again, Elisabeth did twenty astonishing and convincing tests.

After these demonstrations, Leeuwenhoek found out that there was also a dowser living close to him in Delft. During the next few days, Leeuwenhoek did a number of experiments with that person. After all rods had been broken in the trials, Leeuwenhoek had to go and collect new ones. He cut new divining rods from willow, apple, pear and alder trees and handed these to the diviner without telling what kind of twig it was. All these rods worked properly, to Leeuwenhoek's surprise, but when he finally handed over a hazel twig, the movement was visibly stronger. Thereupon, Leeuwenhoek

[50] Rabus wanted to keep the identity of the newly discovered diviner hidden, and deleted the name of his wife from the published version of the letters. But it is clear from later letters, pamphlets and a satiric poem published in 1713, that it was Rabus' wife, Elisabeth Ostens. (See the "Sprookje van Gijsje den Os" below.)

[51] Leeuwenhoek's letter to Rabus, 1 June 1696, printed in *Boekzaal*, May-June 1696, 522-525, and reprinted in Palm, *Alle de Brieven*, XI, 270-275. I have translated "vijf distincte heren" as "five distinguished gentlemen" rather than pleonastically as "five distinct gentlemen.".

dissected the branch of a hazel tree to find out what was so special about it. By means of his microscope, he established that hazel has an uncommonly large number of very fine horizontal vessels, "only eight or ten of which lie together in a straight line, without their constituting any greater width than the diameter of a vessel [cell], and this so close together that it seems to me that between all the vertical vessels, there are horizontal vessels again."[52]

How these findings could come to bear on the practice of divining was still unclear. Given Vallemont's theory of corpuscles that entered the divining rod and the body of the dowser, it was relevant to look at the fine structure of hazel, of course, but much more had to be done.[53] In other experiments, Leeuwenhoek had established that gold was not attracted by the divining rod, but that the rod moved towards the gold. He compared this to his recent experiments with magnetism. Leeuwenhoek carefully described an experiment with balances and large magnets by means of which he had shown that there was no movement from the loadstone to the iron. There was only the opposite movement, from the iron to the loadstone. (This was contrary to William Gilbert's idea of a 'coitus' in which both iron and magnet were attracted to each other.) Leeuwenhoek remained baffled by the phenomenon of divining, however, and the more he thought about it, the more intractable the problem seemed. Especially the fact that the rod did not work in everyone's hands was as yet inexplicable. For, as Rabus had stated in his letter to Leeuwenhoek, this suggested that the key to the mystery might not be so much in the rod, but in the body of the diviner.

It is clear that the circulation of the divining rod itself was not essential. This instrument could easily be produced. Crucial was rather the circulation of diviners themselves. The Aymar case only gained momentum when Aymar was transported from the province to Paris and the Prince de Condé could do tests with him directly. Similarly, the Dutch debate about the divining rod took off when a German diviner came to visit Rabus, and when new diviners suddenly sprang up in their own midst. If we accept Rabus' account, divination spread by travelling diviners and as people discovered that they also possessed this secret gift. But divination was more than a mere gift. It was also a technique, which involved tacit knowledge, and this had to be learned by demonstrations by experts and by practice. Many diviners in France commented on, and fought about, the right technique of divining. Elisabeth Ostens, for her part, had learned from Van Beughem how she had to hold the rod.

The circulation of these diviners is not the same as the circulation of experts and expertise that is usually discussed in the history of science. In this case, the diviners are the actors in a specific practice that has to be learned, but at the same time, they are the scientific objects under scrutiny. They, that is, their bodies are an undistinguishable part of the object being inquired into, namely the phenomenon of divining. In order to reproduce the phenomenon, the body of the diviner seemed to be indispensable. Typically, the diviners themselves were not part of the learned community – they were women, peasants or children –, they did not study their own strange capacity, and we seldom find their own

[52] *Ibid*., 272-3.
[53] It is striking, however, that Leeuwenhoek did not study the pores of the diviner himself.

voice recorded in historical records. Diviners were in a very literal sense ‘silent messengers’. Not their voices, but their bodies mattered.

Van Beughem was an exception in this respect, because he was an adult man and moreover with a career in the literary world, as publisher and bibliographer. Sure, there were a few other men of considerable social standing reported as diviners, such as Monseigneur Galet in France, the bishop mentioned by Bekker. But even these educated and literary men did not engage directly in the debate. Van Beughem did not write about his capacity of divining, and except for some simple trials, he did not do systematic experiments on himself in order to find out more about the phenomenon of dowsing. We can find his voice, the voice of his son, Cornelius, and to a lesser extend the voice of Elisabeth Ostens, only represented in the letters and publications of Rabus. These voices rarely tried to detail or explain divination; this was left to the natural philosophers who studied them.

One might speculate that the diviners were uncomfortable under the objectifying gaze of the natural philosopher. But the opposite seems to be the case. Diviners did not oppose the scrutiny of natural philosophers, such as Leeuwenhoek or Rabus, who wanted to discover the natural properties of the phenomenon of divining. But when critics suggested that these diviners were not just natural objects, but that they were persons who could try to trick and deceive these natural philosophers as well as other credulous bystanders, diviners tended to react with indignation, as such criticism questioned their moral and social status. Natural philosophers, while also concerned about the credibility of the diviners, tried to eliminate their testimony as much as possible. Most important for them was the circulation of the diviner’s body, which was under close scrutiny by the curious savants. Aymar’s pulse and physical condition was monitored by physicians. Osten’s hands were examined to see how she held the rod and to find out how the rod could twitch. Especially interesting for the theoreticians was the materiality of the diviner’s body, with its humours, skin, pores and fibres, in order to explain how the divining rod could work in the hands of some but not of others.

On the one hand, the divining rod and the body of the diviner are the objects of natural philosophical enquiry. On the other hand, one could also see them as instruments that were able to detect invisible vapours or signals in nature that indicate the presence of hidden metals, water or (in Aymar’s case) even criminals. Not only the divining rod is an instrument, but the whole body of the diviner was seen as a large organic instrument that measured invisible qualities. In his *Physique occulte*, Vallemont compares the body of the diviner with a scientific instrument, such as a barometer, hygrometer and thermometer, the workings of which he describes at length. These instruments do not only enlarge images, like the microscope or the telescope, but they measure insensible vapours. The body of the diviners also had to be tested and calibrated, and only some of them (possessing the right complexions, nutrition, or temperament) met the standards for dowsing. Just like the maintenance and transportation of precision instruments, the circulation of diviners was fraught with complications. The materiality of the diviner’s body was considered to be crucial for the phenomenon, and circulating it in different environments could affect this ‘instrument’ in a negative way. Instruments should be handled with

care; they need time to reach a new equilibrium state and should not be used to measure extreme conditions, at the risk of damaging them.[54]

When Leeuwenhoek, after some interruption, wanted to return to his experiments with the diviner from Delft, they both found out, to their consternation, that the man had lost his capacity for divination.[55] The dowser, dismayed, thought that fresh rods would easily solve the problem, but this was not the case. The phenomenon turned out to be less constant than Rabus had assumed, as Leeuwenhoek remarked. When Rabus told this news to his wife, Elisabeth thought he was joking. Rabus replied to Leeuwenhoek that the right "disposition of the body" (*gesteltenisse des lichaams*) would probably soon return, and he remarked that at Rotterdam his wife's capacities had so far been infallible.[56] She had always delivered, beyond expectation, even when Rabus had tried to trick her. Rabus tried to convince Leeuwenhoek of the matter by giving more details of his new experiments. The more gold there is, the stronger the twig moves in her hands, pointing to the centre of the treasure. Rabus noted the curious fact that gold hidden under porcelain caused a much reduced movement in the stick, when compared to the movement provoked by gold hidden under other materials. But if there is the least opening in the porcelain, the activity was as strong as usual. This suggested that the material of porcelain might be able to stop the vapours and corpuscles exhaled by the gold, where other materials could not.

Nor was the material state of the twigs irrelevant. The twigs were best when they were young, not too fresh, but not too old either. Moreover, the more Elisabeth's hands had been at work with the rod, and were red and warm, the more vigorous was the movement of the rod. If the rod was too thick, it would hurt her hands and rip away the skin. Until now, Rabus added, no-one else among their acquaintances had been able to use the rod, but they had noted that if someone took the rod from Elisabeth's hands, there remained some perceptible movement in it. When this person took a new twig, however, it remained immobile. These curious detailed descriptions of some of the properties of the practice of divination, and especially the role of the divining rod itself, were meant to convince Leeuwenhoek to continue his inquiry. It seems that Leeuwenhoek became disillusioned and disinterested in the phenomenon, however, after the diviner close at hand in Delft had lost his capacity for divination. Rabus' own confidence in the infallible and unwavering capacities of his wife would also be put to the test during controversies later that year. [typographer: insert fig. 3 here]

## THE COLLEGIANT CONTROVERSY

[54] See my paper "Divination and the Circulation."
[55] Leeuwenhoek, "Leeuwenhoek to Rabus" in Palm, *Alle de Brieven*, XI, 272-3.
[56] Rabus' letter to Leeuwenhoek, 30 July 1696, printed in *Boekzaal*, July-August 1696, 152-156, and reprinted in Palm, *Alle de Brieven*, XII, 24-29.

In the autumn of 1696, Rabus and his wife were travelling from North-Holland back to Rotterdam, when they met Rabus' publisher, Pieter Van der Slaart, in Amsterdam. Van der Slaart insisted on visiting some acquaintances on the way to Rotterdam. It turned out that some people wanted to put Elisabeth to the test. Without informing Rabus, Van der Slaart had made a bet with Lambert Ten Kate, a Collegiant from Haarlem,. They carried out a trial, and Elisabeth found a gold purse in the corner of a strawberry bed. But, if we may believe Rabus, Ten Kate and his friends did not want to pay their share of the bet, because they claimed that Elisabeth had not been precise enough when she pointed out the location of the purse. Rabus called them hair-splitters and claimed that they were prejudiced. The Collegiants, in turn, spread the news that they had seen Rabus' wife fail with the divining rod. Rabus retorted by claiming that they gave a distorted account of what had happened.[57]

Rabus was convinced that these men tried to bring his wife into disrepute because he had written critically about the Collegiants in a book review on the History of the Quakers and elsewhere in the *Boekzaal*.[58] The Collegiants formed a radical religious movement that had grown out of the Dutch Arminian tradition in the first half of the seventeenth century. After the Arminian ministers had been exiled from the Dutch Republic around 1620, some congregations continued to meet without a minister. People came together to pray, sing and discuss, relying on spontaneous testimony and on the inspiration by the Holy Spirit. They strongly opposed Protestant theology, authority and hierarchy. They interpreted God's word according to their own insight, propounded freedom of creed and rejected the intellectual authority of others. The Collegiants tended to be intellectually active merchants and professionals who spread and radicalised progressive ideas. In their meetings, which were open to everyone, daring new ideas were often propounded, which is why they attracted all kinds of radical thinkers.

According to Rabus, religious interests and strife played a major role in the controversy over his wife's performance in the strawberry patch. Indeed, a striking illustration of the religious overtones of the debate is found in the Collegiants' description of a wrong turn of the divining rod as "bowing before an unconsecrated altar."[59] Although, in the *Boekzaal*, Rabus had never clearly defined his own religious commitments, he presented himself as a moderate reformer. He stressed reason, tolerance and education, a combination of values that became particularly visible in his fight against superstition and his defence of Bekkerian ideas. He was probably a Remonstrant, or Arminian, belonging thus to

[57] For two contrary accounts of this controversy, see Rabus' letter to Mierink, published as "Opregt verhaal van eenige proeven der wichelroede," and two pamphlets in which the author satirizes Rabus and sides with the Collegiants: Anon., *Nodige Verantwoordinge* (this anonymous pamphlet can be found in the copy in the Municipal Library of Rotterdam of Rabus, *De Weergalooze Dichter*) and the sequel of this pamphlet, Anon., *Panegyricus*. The publisher and occasional poet Isaac Vander Vinne wrote in *Ondervindingen wegens de Wichel-roede* his account of the divining rod experiments performed in the presence of the rich merchant Pieter Koolaart and his wife, the poet Elisabeth Hoofman.

[58] *Boekzaal*, January-February 1696. See also the remark on this review by Rabus in the satirical pamphlet *Panegyricus*, 22.

[59] *Boekzaal*, May and June 1697, 409 ff.

the progressive side of the Dutch religious landscape; yet he opposed extreme ideas concerning scriptural interpretation or the invalidity of all authority.

Rabus was thus sceptical of the Collegiants' tradition of 'free speech' or 'free prophecy'.[60] While some Collegiants were prudent and intelligent, he thought, many used their membership as an excuse for being sanctimonious, self-opinionated and stubborn. They allowed themselves to be guided by their own emotions, deluding themselves to be feeling the inspiration of the Holy Spirit. Rabus thought that it was wrong to presume that anyone, even without the least knowledge or expertise, could speak up and propound inspired ideas, however crazy. 'Free speech', he felt, implied its own dogmatism: not accepting any authority, the Collegiants could neither be instructed nor corrected, and they never saw any reason for changing their mind. This attitude was reflected in the remark by one of the Collegiants as recorded by Rabus: "he said he did not want to believe the workings of the divining rod, even if he saw them tenfold."[61] From Rabus' point of view, an excess in so-called 'openness' of mind could in fact close the mind, leading to unjustified prejudices and hindering the circulation of knowledge. Ignorance could be hidden under the cloak of 'Christian freedom.'[62] As a consequence, these so-called defenders of 'free speech' were in truth intolerant of public criticism, and tried to obstruct the truth about divination not just by their excessive denial of the evidence, but even by spreading false accounts.

Rabus thus sketches an unflattering portrait of the Collegiant group from Haarlem, calling them hot-tempered, impertinent and deceitful impostors and suspecting that they were motivated by revenge. But Rabus' word may not be the ultimate on this issue. In fact, both Ten Kate and Trioen, Rabus' two most prominent opponents in this affair, were respected citizens of Haarlem. Jan Trioen (1657-1721) was dean of the Collegium Medico-Pharmaceuticum, the guild of physicians and apothecaries, and deacon of the reformed church. Furthermore, he did some serious work in historiography and linguistics.[63] As for the fellow-Collegiant Lambert Ten Kate (1674-1731), he was a wheat merchant and a linguist who would later publish important work on phonetics and phonology. Fascinated by Newton, Ten Kate also worked on optics and aimed at constructing mathematical theories of language, art and religion. In 1710, he discovered the vowel gradation and became the founding father of historical-comparative linguistics.[64] Both Trioen and Ten Kate were members of the Collegium

[60] On Rabus' view of the different factions of Dutch Protestantism, and notably the Collegiants, see De Vet, *Pieter Rabus*; and especially van Herpen and Kok, "Pieter Rabus en zijn houding," 157-178.
[61] *Boekzaal*, May and June 1697, 399: "dat hy de uitwerkselen der Wichchelroede niet wilde gelooven, al zag hy die nog tienmaal."
[62] *Ibid*., 396-399: "Komen ze in hun stout vragen en hervragen bekaaid uit te vallen, 't welk meer als al te veel gebeurd, straks bezwagtelen zy die misdragt hunner onkunde met de lueren van een Christelijke vryheid."
[63] Jongeneelen, "Fonetiek en verlichting." For Trioen's historiographical and linguistic writings, see manuscript hs. 187 A 56 in the Stadsbibliotheek Haarlem. It is interesting to note that a small circle of well-known publishers, literati and linguists stood at the centre of the controversy, including besides Pieter Rabus himself also Cornelius Van Beughem, Jan Trioen, Lambert Ten Kate, Katharine Lescailje, Elisabeth Koolaart-Hoofman, Isaac Vander Vinne and Pieter Van der Slaart.
[64] See, e.g., Ten Kate, *Verhandeling over de klankkunde*; Ten Kate, *Wiskundig ontwerp der schryfkunst*; Ten Kate, *Aenleiding tot de kennisse van het verhevene deel der Nederduitsche sprake*. See also Jongeneelen,

Physicum Harlemense -- probably the precursor of the Hollandsche Maatschappij der Wetenschappen --, an informal society that discussed natural philosophy. Rabus spoke disparagingly of this society, claiming that its members were amateurs and had no official credentials. Trioen, in his function as secretary of the society, was responsible for all correspondence, and exchanged polemical letters and tracts with Rabus.[65] During the controversy, the Collegium did not only question the demonstrations of Elisabeth Ostens, but also challenged Rabus on theoretical grounds, arguing for the impossibility of divining. Rabus, who derived his explanation of divining from the Cartesian explanations he had found in Vallemont and Bekker, replied that the members of the Collegium Physicum Harlemense did not even understand Descartes' natural philosophy.

Leaving aside the questions regarding the intellectual credentials of the Collegium and the Collegiants, this episode illustrates how lack of trust and excessive scepticism interferes with the circulation of knowledge, especially where the knowledge involved is perceived to be unorthodox, or is new and thus still vulnerable. Rabus complained that "suspicion comes up, as soon as they declare their sentiment to someone else. They trust nobody, and they want to be believed by everyone."[66] He was painfully aware that doubt, wielded intentionally, could undermine the truth and acceptance of any phenomenon. Ten Kate had demanded certain and infallible proof that the divining rod really worked. Such certainty was of course unattainable, and to Rabus' exasperation, Ten Kate and his friends could continue to cast doubt on both the empirical procedures or the integrity of the witnesses. What complicated matters even further was that the relationship between accuracy of measurement and acceptance was perceived differently by sceptics and believers. For Rabus, a positive result in a majority of experiments carried out constituted a clear confirmation of the successful workings of the divining rod. For the Collegiants, by contrast, each failure appeared to confirm their previous belief that divination was impossible. Rabus fumed against this exceptionally high barrier of scepticism, arguing that if expertise, demonstrations and proofs, judged with some measure of benevolence, were not accepted anymore, this had to lead to intellectual anarchy. In this case, benevolence was clearly lacking, and the circle of trust necessary for transmitting Rabus' theoretical explanations as well as the practice of divining was broken.

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"Lambert ten Kate," 201-291. Ten Kate, "Proef-ondervinding over de scheiding der coleuren". See also Vermij, "The formation of the Newtonian philosophy"; Margocsy, *Commercial Visions*, ch. 5.

[65] The two pamphlets mentioned are probably written by Trioen, although his authorship cannot be established beyond doubt. De Vet attributes the authorship of *Nodige Verantwoordinge* to François van Bergen, another opponent of Rabus (albeit mainly in another controversy), on the grounds that he attributes also authorship of the *Panegyricus* to François van Bergen. I do not have any proof of this latter claim, however. Gerrit H. Jongeneelen (in "Fonetiek en verlichting") has found a written version of the *Nodige Verantwoordinge* (called *Satyrische Verantwoordingh*) in the papers of Jan Trioen. Textual evidence suggests that this version is probably a copy of the version that went to the printing press. While this copy provides us with no conclusive evidence that Trioen was the author, it does establish that the writer of the pamphlets was very close to the *Collegium Physicum Harlemense* and its secretary.

[66] *Boekzaal*, May and June 1697, 396-399: "D'Argwaan doet zig op, zoo haast als ze hun gevoelen aan een ander verklaren. Zy vertrouwen niemand, en willen bij elk geloofd zijn."

A comparable dynamic was present in many of the demonstrations and experiments that were in those years performed in the houses of prominent intellectuals at different locations in the Netherlands. The circle of Collegiants around Ten Kate were unwavering in their dissatisfaction with the evidence. At a meeting in the house of the Quaker Benjamin Furly, John Locke's one time host, Ten Kate suggested that Rabus' wife had failed in his presence and that Rabus was well aware of this. This promptly evoked a row. An eminent physician present supported Rabus and told the assembly that he had witnessed similar feats of divining at the court of a German prince. Furly, a prosperous cloth merchant, host to passing Englishmen of unorthodox intellectual tastes, and himself an intellectual of some stature, was intrigued. His curiosity stung, he visited Rabus a number of times to do extensive and detailed observations when Ostens handled the rod. According to Rabus' account, Furly was completely satisfied of the truth of the phenomenon.[67]

Elisabeth Ostens also demonstrated her skills in Haarlem at the house of the famous physician and demon-sceptic Anthonie Van Dale.[68] According to Rabus, who since 1692 had been a close friend of Van Dale, the latter was equal to the Collegiants in scepticism but not in slander. During the evening, gold was hid under hats scattered in a small attic room. This demonstration turned out to be a partial failure, and Rabus went out of his way to point to the experiment's unfavourable circumstances: the room was too small, many onlookers also had gold in their pockets, which disturbed the experiment, and some quick-tempered Collegiants had started their accusations even when Elisabeth was still testing and calibrating her divining rod. The experiments were subsequently repeated in the kitchen, where Ostens found gold under a cushion on the last chair. She had, however, walked past the first chair, on which a golden watch lay hidden, so that new claims of failure were voiced. Rabus defended his wife once more by arguing that she was still merely testing the rod as she passed the first chair. And were not the many times that Elisabeth had successfully located the hidden treasures sufficient proof of her capacities? In response, the Collegiants pointed out that Rabus and Van der Slaart had been present when the gold was hid and might have given secret clues to Elisabeth, helping her find the gold and tricking the audience.[69] Van Dale continued to support Rabus, however, and the bond of trust between them was not broken.

It is obvious that the open-ended Dutch debates were similar to those surrounding Aymar in Lyons and Paris. Aymar, too, had performed very well in a convivial and trusted setting, while his powers seemed to fail him in a sceptical and critical environment. Some supporters found explanations and excuses for such failures, as Rabus did with respect to his wife's, arguing, for example, that there was too much other gold present in the room, which interfered with the experiments, or that the conditions were not optimal. Others attempted a theoretical explanation of the diviners' failure by pointing out that the phenomenon depended on subtle mind-body interactions. When the diviners felt under

[67] On Furley and his circle in Rotterdam, see Zijlmans, *Vriendenkringen*, 175-94; Hull, *Benjamin Furley*.
[68] *Boekzaal*, May and June 1697, 404.
[69] *Nodige Verantwoordinge*, 7.

pressure, for instance, their mental experience effected their body, causing sweat and a different exhalation of vapours, possibly preventing the effluvia of the gold from entering their pores. Aymar had certainly been exposed to considerable stress during the experiments performed before the royal family and famous scientists. Similarly, Elisabeth Ostens must have been under pressure as her and her husband's honesty and credibility were at stake – a credibility that was crucial for Rabus' profession as journalist and public educator. In short, the diviners' mental well-being seemed crucial, and trust, support and the absence of stress were important conditions for their successful operations.[70]

When his wife had failed to find the golden watch in the kitchen of Antoni Van Dale, Rabus even suspected outright fraud: had someone put the golden watch there afterwards, in order to discredit her? Such suspicions were heightened by the events that unfolded later in the evening. After Elisabeth Ostens' demonstrations, others were invited to try out the divining rod. Suddenly a young lady, sister of one of Rabus' opponents, proclaimed that the rod worked in her hands, too. Rabus and his wife, pleasantly surprised, witnessed the rod turning in her hands and affirmed that she also seemed to have the gift of dowsing. Upon which the lady declared that she had consciously moved the rod by means of small hand movements, making Rabus and his wife looking like fools.[71] A whole discussion ensued on how to hold the rod, and whether trickery was possible. Rabus made many prominent people attest that they had conclusively convinced themselves that it could not be done by sleight of hand. Furly, for instance, had clearly seen and attested that Elisabeth Ostens wielded the wand with immobile hands, even to the point that the twig broke into pieces.

The Collegiants, averse to all claims to authority and expertise, were not impressed by Rabus' collection of attestations of credible gentlemen, and did not waver in their criticism. Traditional modes of convincing other people – the testimony of credible witnesses – seemed to fail in the particular religious and epistemic context of the Dutch Republic at the end of the seventeenth century. More experiments followed, and the Collegiants from Haarlem even summoned the boy, Cornelius van Beughem, for trials.[72] The boy's father was enraged by this attempt to abuse his son for their campaign of slander and forbade him to demonstrate his skills again. For the Collegiants, this was only further proof that dowsing was all deceit and fraud. Rabus, by contrast, claimed that the boy had told him that the Collegiants had not only misrepresented the events but had explicitly told him that their aim was to discredit Rabus. Indeed, they were reported to gloat over the fuss that was made and over Rabus' bad luck.

If pressed, father Van Beughem would still let his son be subject to experiments, as is shown in a detailed manuscript report by Izaak vander Vinne, but the father insisted to be present and refused the

[70] See my paper "Divination and the Circulation."
[71] Of course, this witty trick cuts both ways. It exposes Rabus and Ostens' lack of expertise in distinguishing genuine diviners from frauds. But their willingness to accept the women's capacity as genuine might also be interpreted as an indication that they honestly believed in the phenomenon. If they were frauds themselves, and if they thought the phenomenon was impossible, they would not have fallen into Collegiants' trap.
[72] *Boekzaal*, May and June 1697, 430-435.

participation of troublemakers. Sometime in June 1697, experiments were performed at the house of the merchant Pieter Coolaart in Haarlem, in the presence of Van Dale. Coolaart, a staunch sceptic initially, could not deny that the divining rod worked after all experiments turned out successful. Nevertheless, he was reluctant to affirm that the working was natural, artificial or illusionary. Furthermore, afraid for his own reputation, Coolaart explicitly asked Van Beughem to keep the matter secret.[73] Even if many of the witnesses did not dare to speak up, afraid of being ridiculed by colleagues and friends, Van Beughem and Rabus tried to enlist as many as possible in their support. Rabus mentioned many credible witnesses in various issues of his *Boekzaal*, and Van Beughem appealed to indubitable proofs carried out before the mayor of Amsterdam and Dr. Balthasar Bekker, for instance. In this way, they tried to rebuild the trust and credibility that the Collegiants so effectively challenged.

Trust was never completely rebuilt, however. The controversy went on, with insult being added to insinuation. In pamphlets, it was suggested that Rabus did not dare to accept bets anymore, because his wife had lost the capacity of dowsing. Elisabeth Ostens was told to have lost too many effluvia during a recent childbirth, depleting her resources of vapours necessary to wield the rod.[74] For why else would Rabus forgo the opportunity to obtain the huge sum of 2000 guilders, given that under normal circumstances, his wife could easily perform the set task? But even if he lost the bet, his moneybox must be sufficiently filled, with a wife who can find gold at each corner...[75] The symbolic meaning of gold and riches was central for the mercantile Dutch Republic in its 'golden century'. In this particular case, however, it played a negative role, being an occasion for foul play, suspicion and satire. The Collegiants jokingly suggested that Rabus deserved a statue for his efforts in purifying the Dutch language, and that his wife deserved one for giving the city of Rotterdam such a useful tool for finding gold. These statues should be adorned with divining rods, books and sceptres.[76]

Rabus was drawn into an ever increasing number of controversies and torrents of abuse concerning literature, natural philosophy and religion, and the controversies started to overlap. The case of the divining rod stood out, however, and was vividly remembered more than fifteen years later, ten years after Rabus' death. A satirical poem of 1717, which formed part of an elaborate literary controversy in which Rabus had once played a role, defended the poet David van Hoogstaaten, Rabus' friend in youthful years, against Gysbertus Ostens, Rabus' brother-in-law. In the following passage, which is rich in allusions, the families Ostens and Rabus are satirised, being still remembered for Elisabeth Ostens' notorious exploits with the divining rod.[77]

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[73] I found a report of these experiments, written down on 23 june 1697 by Izaak vander Vinne after an oral report of the proceedings by Pieter Coolaart. vander Vinne, *Ondervindingen wegens de Wichel-roede* [MS UVA hs. VIII E 2].
[74] *Nodige Verantwoordinge*, 20.
[75] *Panegyricus*, 34-35.
[76] *Nodige Verantwoordinge*, 16.
[77] See "Sprookje van Gijsje den Os," and Gysbertus Ostens poetic reply, "Sprookje van het Buffeltje," published in Anon., *Vervolg van de Nederduitse Keurdigten*, 74-81. For an analysis of this passage, see de Vet, "Het beeld van Rabus," 139-156.

Like your Uncle, the atheist[78]
Of which your brother-in-law Pieter [Rabus] knew
to speak so masterly[79]
When he had to miss
His long-sought love.
Then Vettekeuken came along.[80]
Then you gave him your sister,
Then he was much more at ease,[81]
She wielded tight the divining-rod
And was never tired of looking for gold
Even when it was not lost.
Who wouldn't be beguiled by this?[82]

**CONCLUSION**

In this paper, I have given a detailed description of the material and intellectual aspects of knowledge claims, their status and their circulation in the course of a curious controversy about divination, taking place in the Netherlands of the late 1690s. Information about dowsing had first reached the Netherlands from France and was subsequently circulated between different places in the Low Countries by letters, books, pamphlets as well as by personal interaction. The material aspects of the production of these different knowledge claims and their circulation (as diverse as printing places, availability of dowsers, distances between experiments and the readers of the reports, wartime blockades, etc.) are important for understanding the dynamics of this controversy. I have also shown that the materiality of the rods mattered, too: they had to be of the right quality, fairly young twigs of hazel tree giving the best results. But the rod was by no means sufficient: maybe even more important were the skills and tacit knowledge involved in holding the rod – knowledge that had to be transmitted from one dowser to the next. Disagreements over all these material, personal and skills-related aspects escalated during the most vehement episodes of the controversy. Arguments concerning the materiality of the bodies of the diviners and notably the fine structure of their skin, membranes and fibres were invoked in explaining the phenomenon of divining. One of the central problems was the

[78] This hints at Rabus' radical (and improper) connections. It was said that Jacob Ostens, who had frequented Spinoza, was a Spinozist.
[79] Rabus was a school teacher.
[80] Vettekeuken married another sister of Gysbertus, and Rabus provided the wedding poems, introducing him to the intimacy of the family.
[81] Although not well-to-do, Rabus was able to marry into the rich family Ostens.
[82] "Gelyk uw Oom den Atheist, / Waar van uw Zwager Pieter wist / Zoo Meesterlijk te spreken, / Wanneer hy was versteken / Van zyne lang gezochte min. / Toen quam 'er Vettekeuken in. / Toen gaaft gy hem uw zuster / Toen was hy veel geruster / Die voerde strak de Wichelroede./ En was nooit gout te zoeken moe, / Al was het niet verloren. / Wien zou dat niet bekoren?."

nature of the mysterious subtle effluvia that were supposed to circulate between the gold, the divining rod and the diviner's body.

In my introduction, I have drawn a distinction between different levels involved in the circulation of knowledge. I this essay, I have focussed on the third level: How and why did the historical actors *accept* or *reject* the knowledge claims with which they were confronted? How did they become convinced? Can we understand their justifications for adhering to a certain opinion, or for changing it, according to their own criteria? I have analyzed the reasons given by Bekker, Bayle, Rabus and others in their assessment of the information they received. We saw, for example, the changes in Bayle's reading of the dowsing reports by looking closely at the materiality of his publications. Because of information he obtained later, he came to view the initial reports about the dowsing case in an entirely new light. Bekker, for his part, seamlessly integrated the controversy into his own programme of devil-slaying.[83]

In order to make up their minds, savants collected and pondered reports by credible men. But they preferred to witnessed the curious phenomenon of dowsing themselves, desirous to interact with the dowsers, touch their hands and the moving rod they clasped, or even try dowsing for themselves. In order to render such hands-on experiences possible, the diviners were taken to different places. Indeed, the material circulation of the bodies of the dowsers was decisive for convincing members of the Republic of Letters to accept the reports as genuine claims to knowledge. We have also seen, however, that though savants were able to specify reasonable grounds for their opinion, their acceptance or rejection of claims to successful divination were very different, as were their judgements of the explanations offered for such divinatory events. A complicating factor we have encountered is the initial bias of some of the actors, which was due to family-related, ideological or theological reasons. Finally, the exchanges between Rabus and the Collegiants also suggests that some foul play might have been involved.

I have shown that traditional modes of truth assessment, by testimony and witnessing, failed in the specific, religiously divided and epistemically fragmented context of the Dutch Republic at the end of the seventeenth century. The differences in epistemic culture between Rabus and the Collegiants should not be underestimated. They handled different standards in accuracy, in allocating credibility, in judging opinions and reports, and in dealing with expertise and authority. In particular, all standards of credibility and trust seemed to be challenged by what Rabus considered the Collegiants' excessive reliance on 'freedom of speech'. This epistemological clash involved all the criteria that were central to the circulation of knowledge in the early modern period. At stake were the fundamental concepts that the early Enlightenment had constructed, debated and revised. Many of these fundamental concepts were related to *trust*. But trust was crucial for the circulation of knowledge, particularly in cases where new and still fragile knowledge claims were involved. In the particular case of the

[83] Jonathan Israel describes coined medals on which Bekker is represented as a devil slayer. See Israel, *Radical Enlightenment*, figure 18 (inserts between pp. 394-395).

divining rod, some participants even maintained that a minimal presence of trust was essential for the very functioning of the divinatory act. This case, in which the historical actors themselves stressed the importance of effects that blend or cross the realms of body and mind, illustrates powerfully the importance of looking beyond the merely material aspects of circulation.

Controversies are always good moments for the circulation of *knowledge claims*. But they are at the same time detrimental to the circulation of *knowledge itself*. During a controversy, the material production and circulation of information multiplies, and all aspects of a case are widely publicised. Conversely, a controversy destroys the fragile networks of trust between people. It creates factions, scepticism and suspicions. Heightened scepticism and doubt, in turn, corrode the phenomena, procedures and theories that are at stake, preventing their widespread acceptance. The more heated a controversy becomes, the more unlikely a fair exchange of information, unbiased judgements and rational discussion gets, while prejudices, self-interest and bad rhetoric usually take over. Historical actors come to see fraud as a distinct possibility, not only at the level of production (the diviners), but at all levels of circulation (witnesses, authors, journalists and even editors), which destabilizes the knowledge economy.

The episode analyzed here provides us with a beautifully close view of the interactions and exchanges in the Republic of Letters. It also reflects some of the big issues that were at stake at the end of the seventeenth century: the role of religion in society, the contested demarcation between the natural, the preternatural and the supernatural, and the meaning and credibility of wondrous phenomena. Some of the most pressing topics of the time were related to what we call the programme of the Enlightenment, which required the free circulation of knowledge, by involving questions of trust, testimony, free speech and scepticism.

When the controversy over the divining rod came to rage in the Netherlands, with his personal acquaintances at the centre of the skirmishes, Pierre Bayle did not know what to believe anymore. Confused, he turned to his friend Jean-Baptiste Dubos for advice. Dubos responded offhandedly that he imagined seeing the Dutch bourgeoisie excited about an old Parisian vogue, but that in Paris, the savants considered all this fuss about the divining rod passé: “No-one here doubts that Jacques Aymar was nothing more than a rogue and that he would find no-one to dupe anymore among the savants.”[84] But even if in Paris the savants thought that they had closed the case, the controversy continued in the French province, in Holland and in other neighbouring countries.

[84] Dubos’s letter to Pierre Bayle, 14 June 1697, in Émile Gigas (ed.) *Choix de la correspondance*, 299. See also the account in an earlier letter, *ibid.*, 261.